

Name _____ Date _____ Core _____

“The Translating Detective”

Case 3

1. **Graph, label and connect** the following ordered pairs (points):

$$W = (-5,3)$$

$$X = (-1,3)$$

$$Y = (-2,5)$$

$$Z = (-4,5)$$

2. What geometric figure do you see?
3. What quadrant is the figure in?
4. Translate your figure 6 units to the right and 7 units down.
5. Document and label your new points.

$$W' = (\quad , \quad)$$

$$X' = (\quad , \quad)$$

$$Y' = (\quad , \quad)$$

$$Z' = (\quad , \quad)$$

Good investigation work! Now answer a few questions about your case!

6. What quadrant is this *new* geometric shape in?
7. Compare your old points with your new points. Describe the changes that occurred in the x values and the changes that occurred in the y values. (Give me one or two complete sentences to describe your findings)
8. Now take your descriptive words from number 7 and put them in mathematical terms. Document the rule used to transform figure 1 to figure 2.
(x +/- _____ , y +/- _____)

Let's Create!!

9. Create your very own rule to transform (move) the **original polygon** into **any other quadrant**. Graph the new position of the shape and write the rule below.
(x +/- _____ , y +/- _____)